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Health Situation in India: 2001

with special reference to the control of communicable diseases

From the Detail Report of

The Independent Commission on Health in India

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Health Situation in India: 2001

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Foreword

The goal of 'Health for All' by the year 2000 seems to be an utopian vision in today's India. A total collapse of health care machinery during any epidemic crisis, lack of basic health services for the majority of the population, environmental degradation and a population which has already crossed the 1 billion mark are all shameful realities the country is facing after fifty years of planned development. Last two decades have witnessed a gradual but sure decay in the health services of the country. Diseases claimed to be under control like malaria, dengue, kala azar are resurfacing with renewed vengeance. Gross disparities in health status and availability of health care services exist all over the country. All these after five decades of various National Health Plans, Programmes and the National Health Policy of 1983 !

Moved by these issues of serious concern the Voluntary Health Association of India facilitated the setting up of an Independent Commission on Health in India as a people's initiative to assess the current health status and problems of health care delivery. Through analysis of existing data and indepth studies the Commission, consisting of distinguished persons from the Health and other Development sectors, identified the maladies affecting the present health care system and developed clear recommendations for future actions. This was supplemented through a series of public hearings in various parts of the country.

The Report of the Commission was released by Shri Atal Behari Vajpayee, Honourable Prime Minister of India on the 13th of May, 1998, in the presence of Union Secretary (Health) and other senior officials. The Prime Minister during his discussion assured that the report will receive due attention of the Government in the framing of subsequent health policy and plans.

It is heart-warming that the ICHI Report was very widely distributed, discussed and debated at different forum including the Parliament, the Health and Family Welfare Ministry and the Planning Commission. In many forms and ways the report has influenced current thinking on various issues of public health including the current effort of the government to frame the National Health Policy and the Population Policy.

The report of the ICHI is the summarised version of voluminous reports prepared by the commission after two long years of painstaking but rewarding process. For quite some time there has been persistent request from various quarters to publish the original reports in full. The Commission deliberated on this issue and felt that instead of bringing out every document it would be more pragmatic to focus on few priority areas of concern and publish the chapters in the form of separate monographs.

The Commission therefore, requested the resource persons on specific issues to update their papers so that these could be printed for wider readership. It was indeed nice to receive enthusiastic and sincere response from the authors. The commission gratefully acknowledges the valuable inputs provided by the authors of the monographs.

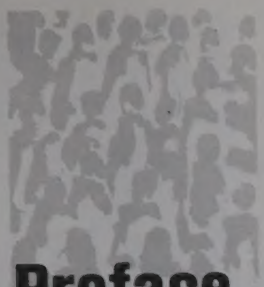
It would be pertinent to mention here that the Commission has been reconstituted recently with a pledge to work with renewed vigour and ensure that health systems are thoroughly revamped to meet the expectations of the public as well as the challenges of the public health. The following major issues of public health have been identified for future deliberations and actions:

1. Revamping and Re-energising of Primary Health Care.
2. Private Sector in Health Care and Medical Ethics.
3. Human Resource Development in Health Care.
4. Health Sector reforms and external assistance for health.
5. Role of indian Systems of Medicine in strengthening health care practices.
6. HIV/AIDS and Reproductive and child Health.

In the present monograph, the author Dr. N.S. Deodhar, laments the neglect and weakening of the Indian public health system and the loss of priority and consideration that this system ideally deserves. The monograph stresses on the need to recognize health care as inter-disciplinary and multi-sectoral requiring collaboration and cooperation of other developmental sectors along with community participation. Stress has been placed on the fact that medical care, which is often confused as health care, is but one component of the gamut of issues forming 'health care'. The monograph also carries an overview of the current status of communicable disease control in India. It identifies the basic public health measures that need to be taken up for the control of diseases and provides a comprehensive 5-point programme as a community disease control strategy. The recommendations of the monograph which address a wide range of health care determinants - medical as well as social, environmental as well as traditional - can go a long way in making meaningful health care accessible to all.

This monograph will go a long way to develop understanding and conscientiousness towards a people centred health policy in the country.

- *Alok Mukhopadhyay*



Preface

"Sarve Santu Nirramayaha, sarve sukhinaha santu". This ancient Sanskrit verse outlining the importance of primary health care, signifies clearly the high priority that was bestowed on health care in ancient times. However, on tracing its progress since then to the start of 21st century, one finds that public health care system has witnessed a steady downfall with respect to the priority that it should hold in a plural diverse society like ours.

The public health care system today, lacks the necessary political will, community organization and effective local leadership. The inroads made by modern medicines in such a scenario has further led to a situation where application and utilization of modern science towards development of health care is non-optimal and where our traditional heritage of self-reliance in health care has slipped from our hands.

The need is to focus on comprehensive health care, which is interdisciplinary and multi-sectoral. Medical care, which has unfortunately become synonymous with health care, must be recognized as but *one* determinant of the above mentioned comprehensive health care strategy. The other determinants are basic provisions like safe drinking water, adequate nutrition, factors influencing life style like health information, economic status, social justice etc. The monograph also provides an overview of the current status of communicable disease control in India. Control and prevention of both communicable and non-communicable diseases need to be taken up with equal vigour and this can be achieved only by laying adequate stress on environmental health. A comprehensive 5-point programme, as recommendations towards control of communicable diseases in India, has been provided, which if followed conscientiously can go a long way in redeeming our lost heritage of self reliance in public health care.

To bring about the desired changes in health care system in a diverse society like ours is difficult. However, by putting our existing infrastructure to optimal use and by exploiting the facilities of our socio-political system, this can indeed be a reality in the not so distant future.

Introduction

Undoubtedly the situation of the control of communicable diseases in India is on the whole precarious; and the condition of public health system is [illegible] bund. Nation is repeatedly experiencing epidemics of malaria and high endemicity even after over four decades of the National Malaria Control and Eradication Programmes - the highest priority programme consuming almost half of the total health budget. Epidemics of dengue fever, cholera and gastro-enteritis occur in Delhi, capital city which spends enormous money on its development. Viral encephalitis, Kala Azar, infectious hepatitis, typhoid fever, and food poisoning visit us regularly in epidemic proportion in various parts of the country. Tuberculosis, our major public health problem, has remained undaunted in spite of the National Tuberculosis Control Programme for over forty-five years. This is also true of the sexually transmitted diseases (STD). All this is really a ghastly picture, nonetheless health is not a high priority concern in India.

As a result of industrialization, socio-economic development, urbanization and changing lifestyles, India is facing a growing burden of the non-communicable diseases. The affluent and power-holding groups of people and politicians are paying attention to diseases such as coronary heart disease, high blood pressure, diabetes, cancer, etc. and in consequence national programme have been instituted. Modern hospitals with highly sophisticated equipment are being opened to provide expensive tertiary care for the management of these diseases. What is not realized is the fact that even the best medical care of these non-communicable diseases, while may give relief to some patients, will never prevent and control occurrence of these diseases. These diseases can be prevented only through making lifestyles conducive to health. Providing further details on this item is beyond the scope of this write-up. However, it may suffice to mention that programmes to change lifestyles and behaviour need much more determination and inputs than those required for the control and prevention of infections. Provision of safe and adequate drinking water to all people at all times is technically feasible endeavour which will result in reducing over 80 per cent of ailments of the *'Bharatiya'*. This is a far more cost-effective public health measure than a very difficult, long term, highly demanding and a sustained integrated programme for prevention of over-weight and obesity, dietary control to maintain proper blood lipid profile, freedom from injurious consumption of alcohol and tobacco, and making domestic and occupational living adequately less stressful - some of the major determinants of the non-communicable diseases.

It is paradoxical that while we claim that our resources are grossly inadequate, e.g., to supply safe water supply to the people we have huge funds to spend,

under foreign pressure, on HIV/AIDS control when for these ailments there is neither any curative drug treatment nor any effective prevention except monogamy. This is happening when HIV/AIDS is not even a high public health priority in India We do not consider cost-effectiveness of our public health programmes while deciding the priorities. Huge money and efforts are being spent on the Universal Programme of Immunization to prevent common childhood diseases with an objective of lowering high child mortality. Over this programme we have suddenly grafted the Pulse Polio drive to eradicate poliomyelitis. In effect, the percentage of children receiving all vaccines has dropped considerably. Further, epidemiologically, even if all deaths due to vaccine-preventable diseases are prevented, the child mortality will not come down by more than five per cent or so. In contrast, childhood diarrhoea and pneumonia together are responsible for about 2/3 of deaths below five years of age. In pursuit of immunization (which is a good public health measure though), we have ignored to pay adequate attention to this highly cost-effective approach for reduction of child mortality by at least half. With neglect and weakening of the public health system in the country, our expertise in epidemiology has gone so low that in 1994 an outbreak of lymphadenitis in Beed District of Maharashtra and of pneumonia(?) in Surat town of Gujarat, were wrongly declared as 'plague' by an apex national institute and confirmed by an expert(!) committee. This was the case despite evidence and expert analysis to the contrary. This attracted undeserved international trade, travel and other sanctions against India resulting in tremendous loss of national pride and total economic loss of over US$ 2 billion.

With neglect and weakening of the public health system in the country, our expertise in epidemiology has gone so low that in 1994 an outbreak of lymphadenitis in Beed District of Maharashtra and of pneumonia(?) in Surat town of Gujarat, were wrongly declared as 'plague' by an apex national institute and confirmed by an expert(!) committee.

As against this, many administrators may argue and testify several of the advancements in health status in India since Independence. Smallpox and guinea-worm disease have been eradicated. Plague has remained in control in without much concern since 1969. Cholera epidemics and deaths are much infrequent and fewer. Incidence of measles, poliomyelitis, whooping cough and tetanus in children has been significantly lowered. Diagnostic laboratory services have developed considerably and communication facilities and transportation have improved immensely. Expansion of the health services infrastructure and health man-power, etc. has been extraordinary. Some of these accomplishments are summarized in Table 1. Quality also matters and the real status of water supply and sanitation is much worse than the statistics indicate. Can the water supply in Delhi be considered absolutely safe? Is there no pollution of Yamuna river in Dehi? Notwithstanding all this, the dictum of public health remains: "*what is important is NOT what has been achieved, but what remains to be done*". Further, Table 2 shows termendous variations in the health status that exists in India and should be our serious concern. Regional variations are high; however, as noticed in Table 3, performance of the States considerably improves on decentralization and transfer of powers and authority to the *Panchayati Raj Institutions (PRIs)*. Effective management, efficiency, effectiveness, sustenance and positive impact on the health status and well-being of the poor and underprivileged people are the key words.

Table 1: Progress of the Health Profile of India

Indicator	1945	1965	1985	1995	Up-date
Birth Rate per 1000 population (1998)	39.9	41.2	32.9	28.3	26.4
Death Rate per 1000 population (1998)	27.4	19.0	11.8	9.0	9.0
I.M.R. per 1000 live births	161	-	80.0	74.0	72.0
Exp. of Life at birth	32.1	45.6	55.9	59.4 (1989-93)	
Sex ratio	945 (1941)	941 (1961)	934 (1981)	927 (1991)	
Small pox-cases	-	33,402		nil since 1985	
Plague per 10000 population	7.21	0.08		nil since 1969	
Guinea-worm cases	-	-	30,490	nil since July 1996	
Malaria cases in lakhs	1,000	0.1	18	23	19
					in 1999
Deaths	10,00,000	nil	213	1,012	>726 in 1999
Access to safe water* Rural (% population served)	-	16.7 (1970)	41.3 (1981)	90 to 95	98 (1997)
Excreta disposal * (% population served)	-	5.6 (1970)	6.4 (1981)	21.0	49.0 (1997)

N.B. * The percentages do not reflect the true situation on the ground. In many places water is inadequate and often not safe. Excreta disposal may continue to pollute water. Most of the sewage is discharged in the sources of drinking water sources without any treatment.

Table 2: Health indicators 1998 — variations

Indicator	Average	High	Low
Birth Rate (per 1000 pop.)	26. 4	32. 4 in Uttar Pradesh	18. 2 in Kerala
Death Rate (per 1000 pop.)	9. 0	11. 2 in Madhya Pradesh	06. 4 in Kerala
I.M.R. (per 1000 L.B.)	72	98 in Orissa	16 in Kerala
Exp. of Life^0 (1989-93)	59. 4	74. 7 in Kerala (Rural females)	53. 8 in Madhya Pradesh (Rural females)
MMR per 1000 births	4. 08 in 1997	7. 07 in Uttar Pradesh	0. 09 in Gujarat

Table 3: Rural Health Indicators in Selected States by Extent of Empowerment of the Panchayati Raj Institutions

State Categories	CBR	CDR	IMR	EL^0	TFR	P<15	LR
With Empowered PRIs							
Maharashtra	24.9	8.7	58	62.0	3.2	35.6	52.3
Tamil Nadu	19.9	8.7	60	60.5	2.2	32.2	51.3
Gujarat	26.8	8.2	68	59.1	3.3	34.2	48.6
Andhra Pradesh	23.5	9.1	73	59.7	2.7	33.7	32.7
Karnataka	24.1	8.6	65	60.1	3.1	35.1	44.3
West Bengal	25.3	8.0	57	60.0	3.4	37.8	46.7
Average for India	29.3	9.7	78	58.0	3.8	37.6	39.3
With Disabled PRIs							
Uttar Pradesh	35.2	10.6	88	55.0	5.6	39.9	25.3
Madhya Pradesh	34.2	11.8	102	52.3	4.7	38.3	28.9
Rajasthan	33.9	9.5	90	55.6	4.8	39.6	20.4
Bihar	33.1	10.6	74	57.7	4.2	41.6	22.9
Orissa	33.1	11.1	98	54.9	3.2	34.4	34.7
Assam	28.9	10.1	79	54.1	3.6	40.6	43.0

Source of Data : Foundation for Research in Health Systems (1997), Health Monitor, Ahemadabad.

Note :

CBR = Crude Birth Rate, Rural, 1996.
CDR = Crude Death Rate, Rural, 1996.
IMR = Infant Mortality Rate, Rural, 1996
TFR = Total Fertility Rate, Rural, 1994.
EL^0 = Expectation of Life at Birth, Rural, 1989-93.
LR = Literacy Rate, Rural, Female, 1991
P<15 = Percentage of the Population below 15 Years of Age

Basic Determinants of Public Health and the Bare Truth

"Health care" is often confused with medical facilities. This is not true. Medical care is only a part of health care and comes into operation whenever there is deviation from health, i.e., when illness prevails. Health status is determined by three basic factors, viz.

- Healthy environment, specially safe drinking water supply, sanitary disposal of excreta and other wastes, and pollution-free housing and work places.
- Adequate nutrition which in turn depends on production and availability of foods, ability to purchase proper foods, personal and food hygiene, and freedom from infections.
- Lifestyle with its important components being health information and education, status of women, economic status, human behaviour and attitude, social and moral values, social justice and equity, health and medical facilities, etc. What matters generally is up-bringing of children by parents, influence of the circumstances and personality development through the childhood at the family and school levels.

It is clear that most of these areas are outside the direct scope of the government health departments. However, our so-called health services have failed to recognize that health care is interdisciplinary and multi-sectoral. Without striving and actively interacting with the concerned developmental sector, the 'Health Services' by and large provide only the curative, i.e. medical services, which are often of poor quality and not satisfactory for the sick persons who attend the health centre or hospital.

Basic Requirements of Public Health Services and Current Situation

The minimum expectation from public health care is 'freedom from epidemics'. The following are some important aspects of a strong public health system:

1. The control and prevention of common communicable and non-communicable diseases. Environmental health must be an integral component of this activity.

2. Reduction of mortality, morbidity and disability. This involves development of multi-disciplinary and multi-level health manpower.

3. Information, Education and Communication (IEC) effort to empower the people to become self-reliant in matters of health. The main objective is to encourage lifestyles which are conducive to better health.

4. Training and development of multi-disciplinary health manpower. This should be properly deployed and competent to satisfy the health needs of the community.

5. Research directed to solving health problems and ensuring progress. This involves health systems research for optimum use of available knowledge and technology for welfare of the people and better quality of life.

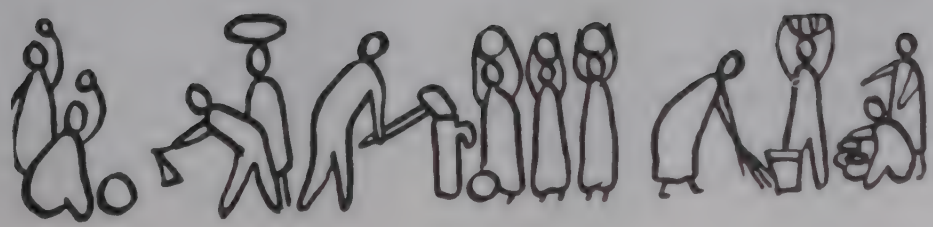
6. Providing advocacy, securing community participation, collaboration and cooperation of other developmental sectors.

7. Procuring adequate resources including finance and strong public support.

With integration of public health and medical services in India, treatment oriented clinicians who have had no formal education in public health and training in epidemiology, occupied the post of Director General of Health Services at the Central Government and Director of Health Services in the States and Union Territories. These persons believe that expansion and strengthening medical care facilities and infrastructure would improve the health care services.[1] As a result, most of the basic public health services, listed earlier, were and are being neglected. Instead of health care, what remained was only 'illness care'. Communicable diseases cannot be controlled merely by treating the sick. In the West, water is potable and safe, sanitary disposal of excreta is universal, food is plenty, wholesome and unadulterated, homes and work places are habitable, healthy and safe. The harmful pests and insects are controlled. Environmental health is attended to and pollution is under control. People are economically better of. Naturally, having provided the basic public health amenities, their main concern is medical care rather than health care. This is certainly not the case with us. Therefore, we in India cannot do away with the

fundamental elements of public health and follow the West blindly. Pure medical care cannot help us to control diseases - communicable and non-communicable. We shall have to concentrate on environmental sanitation, occupational health, hygiene and other basic public health interventions. In the control and prevention of diseases, important elements are epidemiology, active participation of the community, healthy lifestyles and a good standard of living. For all this, a strong public health system is imperative.

While there is little doubt that the focus of the public health system must turn to comprehensive health care with all the requirements mentioned earlier, poor quality of the curative services provided to the rural and urban poor must be simultaneously rectified by all round strengthening of the facilities[2] of general health services in the country.



Overview of the Current Status of Communicable Disease Control in India

Eradication of smallpox and guinea-worm disease is our best accomplishment. Similarly, Yaws and plague are under control. Epidemics of cholera were a major problem in old days. Reported cases of cholera were 1,76,307 with 86,997 deaths in 1950. However, now total number of cases in a year are about 5,000, mortality is also low. Malaria was our biggest cause of morbidity and mortality. At the peak level of the success of control programme in 1964, malaria was contained to less than 1,00,000 cases and no deaths. It then slipped out of control and by 1976 we had 64,67,215 cases of malaria with 99 deaths. With a modified approach, malaria appears to have stabilized to about 2.5 million cases and about 1,000 deaths annually. Prevalence of leprosy has dropped substantially. However, it is much higher than the target of National Leprosy Elimination Programme. Further, there is no evidence yet that the incidence of leprosy has come down.

With these limited progress, we have failed on many counts. Tuberculosis has not responded to our control measures because of poor management and cooperation of the people. Malaria has remained stable for over ten years and malaria deaths are on the increase. In fact, it is appearing at many locations in the epidemic form. Epidemics of infectious hepatitis, food poisoning and typhoid fever are rampant and often go unnoticed. Diarrhoea and dysentery are customarily not even recognized as diseases. Nearly 7.3 crore working mandays are lost every year due to the water-borne infections in India. By conservative estimate, this amounts to loss of nearly Rs. 14,000 crore.[3] Diarrhoeal diseases and acute respiratory infections leading to pneumonia are the main killers of children below five years of age. Viral encephalitis, meningococcal meningitis and dengue fever outbreaks are of common occurrence. Hydrophobia (rabies infection) has remained without any organized control measures. Many are euphoric about the high coverage under the Universal Programme of Immunization. However, the second National Family Health Survey has revealed considerable difference between the reported coverage and the actual number of children immunized. Secondly, the programme has failed to establish efficient epidemiological surveillance for the diseases preventable by immunization. With the superimposition of the pulse polio drive for eradication of poliomyelitis, weakness of the public health delivery system has resulted in significant reduction in the coverage under the regular immunization programme.

Even the highly developed metropolitan cities have failed to effectively manage and contain epidemics. Why should cholera breakout in the national capital, Delhi and why hundreds of people should have died when effective and simple treatment is available for cholera? The common knowledge and available tech-

nology have not put to use. This is worse when we boast of the modern electronic communications and media. If this is the situation and management competence in Delhi, what can we expect in the remote areas in North-Eastern States and isolated villages?

Most often, existence of epidemic is recognized quite late after several people fall sick and many die. For want of correct diagnosis, inapt corrective measures are instituted, and by this time the epidemic is already on its natural decline. Consequently, the officers get unjustified credit for containing epidemic. Both, the reporting and notification of cases of epidemic diseases is either poor or lacking. Medical practitioners, health staff and people generally fail to report because they are either unable to recognize the nature and significance of the illness/disease or are ignorant about the need to report or are afraid for one or other reason. In effect, the most common reporting agency is a newspaper. Even after the report, health staff may fail to judge seriousness of the condition and as a result, ignores the report or hesitates to take any action. In the mean time, epidemic spreads. Epidemiological investigations are carried out only occasionally, but rarely it is systematically completed. The control measures are often *ad hoc* or inappropriate or unsuitable for want of enlightenment and understanding of the natural history. Other reasons are the lack of preparedness, lack of resources at command and poor motivation and training. The basic malady is the fact that we have ignored and neglected to develop a cadre of public health experts, epidemiologists and consultants with competence and experience in management, epidemiology and disease control.

Most often, existence of epidemic is recognized quite late. For want of correct diagnosis, inapt corrective measures are instituted, and by this time the epidemic is already on its natural decline. Consequently, the officers get unjustified credit for containing the epidemic.

Micro-level epidemiological surveillance at sub-centres and primary health centres does not exist, and at the district level it is very weak, if any. Major consequence is delay in recognizing epidemic situation in time. By the time health services get organized, most of the susceptible population gets infected and damage has already taken place. Most of the State Health Departments are apathetic and report to the Central Ministry or a National Institute for help and investigation. Common examples of inapt and ineffective control measures are:

1. Cholera immunization in cholera epidemic,
2. Unreasonable use of insecticides for the control of fleas,
3. Misleading instructions on prevention of plague by five-days prophylaxis with tetracycline capsules during the so-called plague outbreak in 1994.

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In brief, the nation has failed to protect its citizens against epidemic diseases. When the poor people are affected, it fails to cause much alarm. The media is not vocal. If the rich or influential persons are affected, the public health system gets alerted. The most important and logical action after an epidemic, is to take steps to ensure that necessary corrective measures are taken so that similar epidemic will not occur again. This is never done. Weakness of the public health system and expertise in India is manifested in our national health priorities being determined or even dictated often by the international agencies or organizations.

Basic Public Health Measures for the Control of Diseases

1. High standard of environmental health and sanitation

Top priority issues:

- Adequate and uninterrupted supply of safe drinking water with easy accessibility to all people. As in 1981, the percentage of Indian population served by safe water supply was 41.3 with big regional variations, viz. rural Uttar Pradesh 7. 2, rural Gujarat 70. 3, urban Karnataka 99. 8 and Assam 22.[4]

- Sanitary disposal of human excreta, especially to prevent pollution of soil and sources of drinking water supply. As in 1981, the percentage of Indian population served by safe disposal of excreta (sanitation) was 6. 4 with big regional variations, viz. rural areas of 25 States zero, rural Tamil Nadu 20. 6, urban Tamil Nadu 81. 0, and urban Rajasthan 4. 8.[4]

- Sanitary disposal of refuse, animal excreta, and all kinds of liquid, solid and gaseous wastes - domestic and industrial. Data is not available, but the conditions are precarious.

- Effective control of the vectors such as mosquitoes, houseflies, sand-flies, fleas, ticks and mites. Control of animal population such as domestic pet animals and birds, stray dogs, rodents and other pests.

- Healthy and safe housing including domestic, educational, commercial, recreational and industrial and work places. These should be well ventilated and lighted free from over-crowding and pollution.

2. Promoting lifestyles that are conducive to health

Special attention needs to be given to:

- IEC (Information, Education and Communication) massive campaign on health and related matters to empower and enable the people to look after personal and community health. It is essential that every individual and the community collectively should feel responsible for keeping their environment clean and tidy. The people should have a concern for healthy living.

- Promoting health through social actions initiated by Non-Governmental Organizations (NGOs), local community organizations and *'Panchayati Raj Institutions'*.

- Improving nutrition by ensuring nutritional security programme for the

poor, with special attention to pregnant and lactating women, adolescent girls, and children below five years of age.

- Ensuring full and timely use of the available public health and medical services - both private and public.

3. Launching control/eradication programmes against the high priority diseases

- National/State Disease Control Programmes, e.g., immunization for the prevention and control of the diseases preventable through vaccination as one of the components.

- Providing high quality medical services for effective treatment of diseases to minimize morbidity, infectiousness, disability and mortality.
- Instituting efficient epidemiological services including effective and integrated disease surveillance operations, duly backed up with diagnostic laboratories and preparedness of corrective and preventive measures as may be necessary.
- Securing active participation of the community and involvement of the voluntary agencies and NGOs.

4. General organizational and management inputs

- Proper organizational set-up with effective leadership and direction. Bifurcation of public health and medical services. Efficient management which is imperative for success and development.
- People-oriented health policy to ensure provision of adequately trained, experienced and well remunerated public health manpower, adequate infrastructural facilities, and enough and timely finance.
- According public health services higher priority over that of the medical services. Privatization of medical care, with the needy being provided free medical care.
- Decentralization of the services, resources, authority and power and responsibility. Honest and urgent implementation of *'Panchayati Raj System'*. Emphasis to be on inter-sectoral and integrated development. Decentralization of delivery of health services to the village and urban ward will make it possible for the district, State and national level management to concentrate on functions that are utterly relegated at present, e.g., health system research, data base for planning, evaluation and assessment, regulation and quality assurance, etc.
- Placing people's health in their own hand. For this, the poor need to be organized and empowered.

Recommendations for Communicable Disease Control Strategy

The following five-point programme is suggested on the basis of the elementary principles of public health practice.

1. Strengthening of the general health services.
2. Environmental health, sanitation and hygiene programme.
3. Information, education and communication (IEC) campaign.
4. Establishment of epidemiological services.
5. Disease specific measures for the control and prevention of the high priority infections. This needs to be incorporated within the overall framework under the items 1 to 4 above. It will assume much importance when the vertical programmes for the control of specific disease will be abolished (as proposed).

1. Strengthening of the general health services

With rapid expansion of the infrastructure of the health services during the last two decades, failure to consolidate and lack of quality assurance, there is a significant fall in the quality and effectiveness of the health services delivery. As a result, health services institutions are not able to discharge the expected functions and have lost public recognition and confidence. The major weakness of the present day health services is their inability to implement the national health programme efficiently and effectively. This has to be rectified. Strong general health service and integrating all the special disease control and other health programmes within them will obviate the need for the vertical programmes for the control/eradication of communicable diseases. The following inputs are essential:

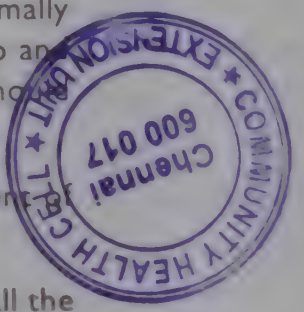
- Improving infrastructure facilities, physical and working space, basic equipment and furniture, materials and supplies, transport, telephone and other electronic systems, good house-keeping, logistical support, security, cleanliness and neatness, preventive maintenance, etc.
- Manpower development and proper deployment: Strengthening staff position, improving their effectiveness and motivation, regular reorientation and continuing education. For improving supportive supervision of the field staff in the rural areas, the Community Health Officer Scheme has to be started. This is designed to rectify and resolve the issues arising out of inability of the medical officer of the Primary Health Centre to manage and supervise, single-handed, the preventive and promotive services. This

should also result in making the curative services to the patients, efficient.

- Establishment of the *'Panchayati Raj/Zilla Parishad'* system and total transfer of the primary health centre complexes together with the staff to this local self-government.

- Rationalization and trimming of the organizational set-up. Improving management through process of effective leadership and direction, decentralization, supportive supervision, delegation of powers, accountability, etc.

- Leadership development and quality assurance. Priority requirement is to establish a new cadre of Indian Public Health Service *on par* with that of the Indian Administrative Service (IAS) and filling all the key positions at the Central and State Governments. Competent officers who are formally trained in public health and management and can provide leadership and direction need to occupy these posts. Directors of Health Services should be also ex-officio Secretaries to the Government.



- Securing active participation of the community and fuller involvement of various NGOs and local voluntary agencies and volunteers.

- Special inputs to guarantee that the clinical and curative aspects of all the diseases even those under the national control and preventive programmes, are managed effectively by the medical officers and their team, and the private medical practitioners.

- To provide a well disbursed network of primary health care services which takes into account the fact that a large majority of health functions can be handled effectively and resolved by the people themselves, with organized support of the volunteers, auxiliaries, paramedical and adequately trained male and female multipurpose health workers of various grades of skill and competence.

- Back-up support is provided to primary health care through establishment of a well worked out two-way referral system of secondary and tertiary health institutions.

- Ensuring adequate legal provisions. At present, multiple laws exist to cover various aspects of public health and medical care. It is desirable to enact a comprehensive health act. Model Public Health Act has been drafted long ago. This need revival.

- Provision of adequate funds well in time, and delegation of full powers and adequate authority.

To-day, the district health organization is ineffective and is in a mess. It is essential to review, examine and rectify the set-up of the health organization at the district level. Such exercise has to be taken separately in different States and Union Territories (U.T.). Organization should be based on the activities and not on the basis of vertical programmes. Division of work should be on geographical basis and not programmewise. The multiple budget heads should

be merged into one and ample powers and resources should be delegated. The State level organizational set-up is the outcome of *ad hoc* expansion and growth. Current set-up of the health organization in any State is not very efficient in managing effectively the delivery of need-based, community-oriented preventive and promotive health care services to the common people. Each of State/U.T. should get its organizational set-up for health tailor-made. This task should be assigned to an expert group and reviewed at the national level by a high-power commission or board.

There is a need to establish a new cadre - Indian Public Health Service - on par with that of the Indian Administrative Service (IAS).

Health is the state subject. Therefore, there is no need for a big administrative set-up at the Central level. Though belonging to the same Ministry, the Department of Health, Department of Family Welfare, and Department of Indigenous Systems of Medicine work in air-tight compartments. Same is the case with the sections and programme officers in charge of different national programmes within a Department. There is no dialogue nor any coordination. The nature of work at the Central level, especially that pertains to the States and U.Ts., is in the domain of public health. For this job, one needs officers and experts who are trained in public health and have adequate experience in its practice. However, almost all medical officers in the Directorate General of Health Services and the Ministry of Health and Family Welfare have training in one of the clinical disciplines and have experience mostly limited to CGHS clinic or hospital. It is only by chance that some of them have work experience if a U.T. or State. A person who has never seen a village may be in charge of rural health programme. This morbid situation has to change. The answer is to establish a new cadre - Indian Public Health Service - on par with that of the Indian Administrative Service (IAS). This will provide adequate attraction and structure for the bright medical graduates for career development in public health.

The foremost objective of the Central Government should be to facilitate effective and efficient administration and health management by the States and U.Ts. The local health authorities of the *Panchayati Raj Institutions (PRIs)* should be encouraged and empowered to assume as much responsibility as possible for the primary health care, duly supported by the State with the Secondary and Tertiary care facilities. In consideration of the above, a blueprint for reorganization of the Ministry of Health and Family Welfare and the Directorate General of Health Services, New Delhi, has been prepared and given in this document.

With additional inputs and restructuring of the organizational set-up, the general health services should be able to provide high quality primary health care to the satisfaction of the people, especially of the poor classes. Morbidity, disability and mortality due to common diseases and illnesses will be minimized. It will be feasible to effectively implement all the national and State disease control/eradication programmes as an integral part of regular function, e.g., immunization, antenatal care, treatment and prompt notification of communicable diseases, etc.

2. Environmental health, sanitation and hygiene programme

A well planned and well-executed programme of environmental health and enrichment is expected to lower sickness load in a community by 60 to 80 per cent. With such an eco- friendly investment, improved health status will result in higher productivity and income. People have to play a vital role and participate actively in this primary public health measure. The following are the essential components of environmental health upgrading:

- Provision of adequate and accessible supply of safe drinking water throughout and without interruption especially attending to all the villages and urban slums. Further, emphasis should be laid on protecting the sources of drinking water from getting contaminated with faecal matter and harmful chemicals.
- Improvement of sanitation and hygiene is imperative. Sanitary disposal of human excreta should receive highest priority. Safe disposal of animal excreta, solid wastes and sullage water has to be ensured everywhere.
- Control of the vectors and pests has to be sustained at all times for the control of many endemic diseases. Such a control has to be largely based on naturalistic methods. Indiscriminate use of insecticides and pesticides should be avoided.
- Promotion of food hygiene and food safety at the public eating places and prevention of food adulteration require special attention because of the growing tendency of the people to eat out. Safety, wholesomeness and other advantages of home-made food should be highlighted, and possible disadvantages of refined and ready-to-eat foods should be emphasized.
- Effective control and prevention of water, air, soil and noise pollution should be dealt with vigour, more boldly and effectively. All industrial establishments, new and old, private and public, should be in line. Pollution resulting from occupational activities such as in agriculture, commerce and domestic services should be abated.

The curative, epidemiological and other public health and social aspects of the water-borne diseases and infections are covered earlier by the measures listed under the General Health Services. Other items are considered later in this document.

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3. Modeling lifestyles for health promotion and disease prevention

Lifestyle is a major determinant of ill-health and may explain as to why some of the people fall ill while the other living in the same environment escape. A programme to modify the lifestyles and make them conducive to healthy life, will form a major and demanding task of the public health service organization. Effective and meaningful transfer of information and technology to the people will promote and encourage personal and community self-reliance in health.

The following are the important components:

- Massive IEC campaign with emphasis on (a) high standard of personal hygiene and cleanliness and (b) provision and transfer of information on various health hazards people may get exposed to and the practical methods and ways to tackle them effectively, is the prime need of the day. This has to be an integrated with a comprehensive programme covering all aspects of diseases, their prevention and health promotion. It is also desirable to include other social and economic development programmes.

The concept of primary health care for all has been aptly expressed in ancient Sanskrit verses "Sarve santu nirramayaha; Sarve sukhinaha santu". Health care was not confused with medical care/ cure as many of amongst us are doing to-day at the start of the 21st century

The role of information, education and communication has been universally recognized in the areas of human resource development, promoting self-reliance, assuring community participation, etc. Unfortunately, except lip sympathy to health education, nothing worthwhile has been done in India in this most vital developmental input in man. There is an urgent need to attend to this serious lapse. In this regard, we should take advantage of the advances in electronic communication media and modern educational technology to carry information to the people, especially to the largely illiterate populations and the 'have-nots' who should be our main targets.[5] People should be helped to understand information and internalize knowledge so that they will be able to use it when needed.

The behavioural aspects, both individual and community levels and dearth of community organization and effective local leadership are the major constraints in the application and full utilization of modern science and technology towards the development of health of our people. The desired changes in health related behaviour of the people and health-conducive culture have to be developed by informing and educating the people, setting appropriate examples and generating a critical mass of health consciousness among the common people. In a traditional, plural and diverse society like ours, this is indeed a very big challenge. In accepting this challenge and to organize and motivate the have-nots [5] we shall have to put to use all the existing infrastructure and other facilities of our entire socio-political systems.

The approach has to be comprehensive and efforts shall have to be continuous, innovative and sustained. It is unrealistic to believe that the people will change their outlook and behaviour towards health alone. We still have 'educated' people who continue to smoke in the no-smoking area at the air-port, etc. Many may even argue. However, the very people blame the poor and the 'uneducated' for their ills. The package has to be designed comprehensively covering all developmental sectors so as to incorporate all the relevant aspects of culture and technology.[5]

For decades, apart from big talks, lip sympathy, and sporadic and *ad hoc* exercises, nothing significant has emerged in informing and educating the masses of our peasants and urban poor in health and health related matters. The concept of primary health care for all has been aptly, more fully and beautifully expressed in ancient Sanskrit verses *"Sarve santu nirramayaha; Sarve sukhinaha santu"*. Health care was not confused with medical care/cure as many of amongst us are

doing to-day at the start of the 21st century. The essentials of health care, e.g., personal hygiene and habits, health education, yoga and exercises, code of conduct and self-discipline, dietary practices, food, sanitation, environmental enrichment, civic and spiritual values, home-treatment of minor ailments and injuries, etc., were neatly woven into daily activities of life or what was then technically termed and defined as '*dina charya*'. Through such practices and traditions, the community was generally self-reliant in health matters. Unfortunately, this great era was lost to a dark age. Relatively recent Western influence has been one of the major reasons of our failure to regain the heritage of self-reliance in health care even after political independence. We continue to plan largely for the affluent and power groups (Indians), and not much for the common people or the masses (*Bharatiya*). We continue to look to the West for everything. We have to pause, think and take necessary corrective steps for our own good. Hybridization of cultures is not desirable. The tendency is to pick-up the bad from outside and abandon the good we have.

- Maternal and child health and welfare initiatives should go beyond health and maternity and cover wider and basic issues such as their status, empowerment, gainful employment/work, equity, etc. Just adopting a new title of Reproductive and Child Health has served no purpose. Proper upbringing and rearing of the child is of paramount importance for growth and personality development. For this benefit, institution of family should not be allowed to disintegrate under the influence of Western culture.

- School health education activity is poorly attended, if at all. About one-third of child's life is spent in the school and this provides an excellent opportunity to educate and train children on healthful living and inculcate healthy habits. In order to inculcate good habits and high standard of personal hygiene practices during the formative years of life at the school (and at home), we have to provide necessary facilities at the schools. In general, there is no awareness and felt need about cleanliness and tidiness. Likewise, there is lack of civic sense. Nevertheless, most of the school buildings do not provide for supply of safe drinking water and sanitary facilities. These deficiencies should be rectified immediately.

- Accident control and prevention is an emerging issue as mortality and disability due to accidents is increasing. This is true of the road, occupational and home accidents.

- Nurturing moral and spiritual values has assumed urgency and importance because of adverse impact of 'modernization', television and influence of Western culture. Promotion of healthy sex behaviours and discouraging promiscuity have become urgent due to the threat of HIV infection and AIDS. These fundamental steps are essential for the control of sexually transmitted diseases.

The task of influencing people and inducing them to adopt lifestyles which are more conducive to health and bring about necessary behavioural changes, will be the most challenging and long term endeavour. When it comes to the control of the non-communicable diseases, we shall have to depend largely on the lifestyle changes for prevention and control of coronary heart disorders, diabetes, hypertension, diabetes, etc.

4. Establishment of epidemiological services

This programme will fill the present vacuum in our public health system and improve chances of prevention and control of disease and epidemics. In case of a breakdown, an epidemic can be managed better thanks to early detection, proper diagnosis and a state of preparedness to deal with the situation. Comprehensive, integrated and vigilant epidemiological services are a must for the control of communicable diseases. The efficiency and quality of the epidemiological services will depend largely on the competence of the epidemiologists and their supporting staff and laboratories. Therefore, very special attention is necessary to provide high quality, practical education and training facilities. It will induce bright and intelligent persons to become epidemiologists.

5. Setting priorities

Priority setting is important in planning, programming and operations or implementation. Appropriate, adequate and updated Epidemiological data and information is required to decide priorities. Unless the priorities are distinct and unequivocal, essential operation and maintenance costs cannot be ensured. The well known criteria for setting priories in health sector are:

(a) extent of mortality and morbidity of the disease or ailment,

(b) extent of economic or social loss, and

(c) feasibility and efficacy of the corrective and preventive measures against the disease or ailment in question.

Enormous funds are being spent on HIV and AIDS without any epidemiological justification, when our real problems such as tuberculosis, high child mortality, etc., are neglected, given lower priority and starve for funds. As regards cost-benefits, crores are spent to buy sophisticated equipment, the instruments which remain out-of-order for long periods since there is no prior provision for preventive maintenance. In light of this, it is essential to review quickly all the health infrastructure, services, programmes and projects, education and training, research, etc. and reset priorities judiciously.

- **Epidemiological surveillance**
  This is one of the vital responsibilities of public health system. Good surveillance gives early warning and nature of a probable health hazards and thereby provides time for proper diagnosis and early corrective measures to arrest spread of infection, reduce morbidity and mortality, and minimize disabilities and economic loss, etc. Components of a good epidemiological surveillance include:

  (a) Surveillance on the occurrence of a group of selected high-priority diseases and the status of their determinants, especially those operating locally. Notification of every epidemic and watching out for cases of the communicable, occupational and other diseases, is an essential prerequisite for subsequent containment actions. Village, Primary Health Centre and

district level vigilance is the most important. To the extent that this is good, the State epidemiological services will be efficient.

(b) Forecasting is possible if necessary facilities are adequate; and proper data is collected regularly, analyzed and judged in comparison with the past data which is relevant.

(c) Vigilance and maintaining a state of preparedness and adequate resources for quick mobilization and action.

(d) Adequate diagnostic facilities, viz. clinical, laboratory and epidemiological should be developed and provided. At present, laboratory services are inadequate and poor. National and State laboratories should be coordinated through some mechanism like a net-work or website. This would include all public health laboratories, laboratories of the Water and Air Pollution Prevention Boards, laboratories under Food and Drugs Administration, etc. Reliability, accuracy and quality should be ensured through an accreditation programme.

(e) Immunization and herd immunity to prevent epidemic. However, they may not be of much use after an epidemic breaks out.

(f) Training and up-dating in epidemiology and manpower development for the field practice of epidemiology are important.

(g) Steps are necessary to prevent recurring epidemics. This is possible by instituting long term public health measures which are based on experience and on the duly validated causes of the past epidemics.

- **Control and management of epidemics**

Various steps towards this effort include:

(a) Epidemic warning system through the study of surveillance data. This has to be backed with the electronic communications tools such as telephone, FAX, E-mail, etc.

(b) Early recognition and detection of the outbreaks - involvement of the local medical and para-professional practitioners, and private organizations is important. Other needs are high suspicion index and early diagnosis and quick confirmation.

(c) Epidemiological investigations of every epidemic to find out the reasons and causes of the given epidemic so that the most appropriate and locally effective control measures can be instituted. This role of an epidemiologist has to be assigned to a specially trained officer and not to the District Health Officer or the Chief Medical Officer of the district.

(d) Responsibility for epidemic control measures should be separated from that for epidemiological investigations. District Health Officer is generally held responsible for both. Obviously, control and preventive measures are given priority over investigation of the epidemic. This results in failure to fully elucidate the causes that lead to occurrence of the

particular epidemic at a particular place and time. Thus, the preventive and control measures are based on only theoretical considerations. The locality specific preventive measures remain ignored and the area remains vulnerable to develop more epidemics in future.

6. Disease specific measures for the control and prevention of the high priority infections

This needs to be incorporated within the overall framework under the items 1 to 4 above. This assumes much importance when the vertical programmes for the control of specific diseases will be abolished (as proposed)

Many specific measures and interventions are included under the various on-going national disease control or eradication programmes. It is essential that when the vertical approach for the disease control is disbanded, these measures are incorporated within the overall framework under the in our new approach and strategy for the control of these diseases Some of such items are listed on the following pages:

Vector-borne diseases

This group of diseases include a high priority infection like malaria, disabling condition of filariasis and many highly fetal viral infections.

A. Malaria

(a) Malaria Eradication/Control Programme should be terminated. The vector control component is to be carried out under a new strategy by launching National Integrated Vector Control Programme (NIVCP) adopting eco-epidemiological approach and abandoning reliance on the residual insecticides. The use of a selected insecticide should be restricted only to meet specific emergency conditions. As a guideline, policy for the use of insecticide for the control of disease, should be formulated. No single method of vector control will ever be effective by itself. The NIVCP should be directed and implemented by a new Department of Environmental Health to be established as an integral part of reorganization of the organizational set-up of the public health system in India.

(b) Use of integrated and multi-sectoral approach, improved water management, and well coordinated efforts are necessary for sustained success.

(c) Selection of packages of anti-malaria measures which are based on the local epidemiological situation and vector binomics.

(d) Eliminating breeding places and taking up anti-larval measures since urban malaria is mostly man-made and can be tackled by anti mosquito measure.

(e) Integration of the curative and epidemiological actions as a part and parcel of the general health services. For this, general health services area needs to be strengthened to ensure that every person with symptoms suggestive of malaria should be diagnosed at an early stage, appropriately attended and radically treated. Blood smear should be taken from all the suspected

and provisionally diagnosed cases to confirm diagnosis of malaria. Above care should be provided by all the government, public, corporate and private medical practitioners, clinics, nursing homes, hospitals and places where people with suggestive signs and symptoms come for treatment.

(f) Investigation, monitoring, surveillance, evaluation, etc., should be ensured through general epidemiological services at the district level and duly supported by State level set-up. What is important is a micro-level assessment of the control measures and the necessary corrective steps.

B. Filariasis

(a) All items, except (c) and (d), are the same as in malaria.

(b) Sanitary disposal of waste water and drainage are basic aspects of water management. These are to be attended to scrupulously and universally for the control of breeding places of the vector.

(c) Mass chemo-phrophylaxis is advisable in the endemic areas.

C. Viral encephalitis

(a) All items, except (c) and (d), are the same as in malaria.

(b) Establishment of sentinel centres to monitor infection with JE and other viral agents in the pigs or other appropriate primary animal host. It has been observed that the interval between occurrence of infection in pigs, etc. and human case of encephalitis is four weeks or so. Thus, sentinel cantres can provide early warning of an impending outbreak of encephalitis in man, at least a week or two in advance. This period is adequate for taking anti-vector measures, especially since the vector density is above the critical level and prevent human infection.

(c) In high risk areas, vector density should be kept below the critical level. Efficient vector surveillance is necessary coupled with the effective control measures.

D. Dengue and Chickengunia fevers

(a) All items, except (c) and (d), are the same as in malaria.

(b) An effective and simple way of controlling epidemic quickly is observing a dry-day once a week. All containers with stored water are to be completely emptied every week. This will result in effective control of the vector mosquito and arrest the spread of infection.

E. Guinea-worm disease

We have successfully eradicated this disease from India. All that is required now is to be vigilant and ensure that there is no resurgence.

F. Kala-azar

(a) General health service is to be adequately strengthened (with high suspicion index) to ensure that any case with signs and symptoms of Kala-azar is thoroughly examined. If the history and circumstances indicate possibility of Kala-azar, all the facts should be reported immediately to the local and district health officers by telephone, FAX and E-mail. This is also true for

the private medical practitioners and hospitals.

(b) Early and specific treatment will prevent mortality. Adequate stock of necessary medicines should be maintained in every district which is endemic of Kala-azar.

(c) Health officer should immediately report to highest level, start epidemiological investigations and collect appropriate samples/specimens for examination and confirmation of diagnosis.

(d) Epidemic control measures should be quickly instituted.

(e) Laboratory facilities for diagnosis should be reliable and accurate with quality assurance. This should be provided at every district public health laboratory in the high risk areas.

(f) People should be well informed on this disease and its control through the IEC campaign so that rumours areprevented and there is no panic and phobia.

(g) Epidemiological surveillance should be ensured through the epidemiological services. This is the most vital step because this disease carries high mortality.

Childhood infections

These infections are responsible for high child mortality in India. Most of these deaths are preventable by immunization, early diagnosis, better hygiene and sanitation

G. Acute respiratory infections

(a) General health service is to be adequately strengthened to ensure that every child under five years of age, who has signs and symptoms (fever and increased respiratory rate) of acute respiratory infection, is thoroughly examined. Increased respiratory rate above 50 per minute in the children with fever, is highly indicative of possibility of pneumonia. These children should be treated with appropriate antibiotic and other supportive measures. Such treatment has been shown to result in over 30 per cent reduction in child mortality. This is also true for the private medical practitioners and hospitals.

(b) In the rural areas and places where medical care is not promptly available, mothers, health volunteers and health workers should be trained to count respiratory rate and recognize respiratory distress and possible pneumonia in young children. In such children, first dose of antibiotic should be locally administered and the child should be taken immediately to a doctor or nearest hospital for diagnosis and treatment. Impact of this innovative approach has been fully validated by Dr. Abhay Bang in Gadchiroli District - Maharashtra's most backward and tribal district. Elderly women from the villages have been empowered and trained to count respiratory rate and antibiotic supply.

(c) Active participation and involvement of the people is vital for success and this should be promoted through the IEC drive for health promotion and disease prevention.

(d) Epidemiological surveillance should be ensured through the epidemiological services. This is the most vital step because this disease carries high mortality.

H. Diarrhoeal diseases

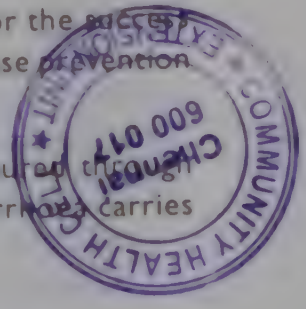
(a) General health service is to be adequately strengthened to ensure that cases of diarrhoea (more than five loose motions in a day) in children, in particular under five years of age, are given special attention. Dehydration and electrolyte imbalance should be prevented mainly through oral rehydration therapy. Cases with signs and symptoms of dehydration are treated as determined by the severity. Diarrhoea cases should be reported to the local and district health officers. This is also true for the private medical practitioners and hospitals.

(b) Even in the rural areas and places where medical care is not promptly available, mothers, health volunteers and health workers should be trained in oral rehydration therapy and to recognize signs and symptoms of dehydration, etc. Such children are taken immediately to a doctor or nearest hospital for diagnosis and treatment. With this strategy, diarrhoeal deaths have been prevented and child mortality reduced by about 20 to 30 per cent.

(c) Personal and food hygiene are good protective barriers. Use of feeding bottles should be discouraged and use of spoon and *wati* (cup) be promoted instead.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(d) Epidemiological surveillance and evaluation should be ensured through the epidemiological services. This is important because diarrhoea carries high mortality.



I. Poliomyelitis

(a) Basic protection has to be given through environmental sanitation and hygiene programmes. Safe water supply is the main public health measure.

(b) Immunization of all children below six years of age is the most effective method of personal protection. Oral polio-vaccine is to be administered according to the national immunization schedule with a minimum of three to eight doses.

(c) Under the 'Pulse Polio' scheme, on the specified national immunization days, all children below six years of age are required to take one dose of oral vaccine irrespective of having taken adequate doses earlier. Mop-up rounds may be required. This method is expected to interrupt circulation and transmission of the wild polio virus. This scheme needs to be evaluated for actual impact. It has been noticed that with 'Pulse Polio' drive, normal coverage under routine immunization programme has dropped significantly. This, inturn is a serious matter.

(d) Intra-muscular injections should be avoided in children during the polio season for prevention of provocative poliomyelitis.

(e) Bed rest and support to prevent stretching of the paralyzed muscles during acute phase and physiotherapy subsequently are essential for prevention of paralysis and optimum recovery.

(f) Rehabilitation services are required for the paralyzed children. Full recovery is possible in many children.

(g) Active participation of the people is vital for the success. This should be encouraged through IEC campaign for health promotion and disease prevention.

(d) Epidemiological surveillance and evaluation should be ensured through the epidemiological services. This is important because of the high risk of disablement.

J. Measles

(a) General health service needs to be adequately strengthened to ensure that every case of measles is diagnosed and reported immediately to the local and district health officers. In treating measles, special emphasis should be on prevention of complications such as broncho-pneumonia, which is a common cause of death. The private medical practitioners and hospitals should do the same.

(b) Immunization of infants against measles is essential. A booster dose is needed in view of the disease now affecting children at higher age groups.

(c) Active participation and involvement of the people is vital for the success. IEC campaign for health promotion and disease prevention is necessary.

(d) Epidemiological surveillance and evaluation should be ensured through the epidemiological services. This is important because disease carries high mortality.

K. Diphtheria

(a) General health service needs to be adequately strengthened to ensure that possibility of diphtheria is excluded in every sick child reporting for treatment. Careful examination of the throat is essential to detect the presence of the characteristic patch. Throat smear should be examined in every suspected case. Diphtheria should be reported immediately to the local and district health officers. It should be treated promptly with antiserum and antibiotic. Private medical practitioners and hospitals should act similarly.

(b) Care of all contacts, especially children, is necessary.

(c) Infants should be administered three doses of DPT vaccine at intervals of four to eight weeks. Booster doses should be given according to the immunization schedule.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(e) Epidemiological surveillance should be ensured by the epidemiological services.

L. Whooping cough

(a) General health service is to be adequately strengthened to ensure that every child with signs and symptoms that are suggestive of whooping cough, is correctly diagnosed and treated. Cases should be reported immediately to the local and district health officers. Private medical practitioners and hospitals should act similarly.

(b) Care of all contacts, especially children is necessary.

(c) Infants should be administered three doses of DPT vaccine at intervals of four to eight weeks. Booster doses should be given according to the immunization schedule.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(e) Epidemiological surveillance should be provided by the epidemiological services.

M. Mumps

(a) General health service is to be adequately strengthened to ensure that every person with signs and symptoms of mumps is correctly diagnosed and treated. Mumps should be reported immediately to the local and district health officers. Private medical practitioners and hospitals should act similarly.

(b) Care of all contacts, and prevention of complications may be required.

(c) Infants may be given mumps vaccine (MMR).

(d) Epidemiological surveillance may be provided by the epidemiological services.

N. Meningococcal meningitis

(a) General health service is to be adequately strengthened to ensure that every child with signs and symptoms that are suggestive of meningitis is correctly diagnosed and reported immediately to the local and district health officers. This is also required of private medical practitioners and hospitals.

(b) Care of all contacts, especially children is essential. Chemoprophylaxis is a very effective measure. Vaccination is possible.

(c) Over-crowding in hostels, hospitals, camps and other lodging places should be avoided and good ventilation ensured for prevention of the infection.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(e) Epidemiological surveillance should be provided by the epidemiological services.

O. Tetanus

(a) Protection of all pregnant women with tetanus toxoid.

(b) General health service should be adequately strengthened to ensure that cases of tetanus are correctly diagnosed and reported to the local and district health officers immediately. The patient should be provided with a hospital bed and prompt treatment. Same job has to be done by private medical practitioners and hospitals.

(c) Providing facilities for treatment of wounds with a view to prevent tetanus. Washing of wound with soap and water and excision of dead tissues are important. Antibiotics are recommended for preventing infection and sepsis. If the injured person is not immunized against tetanus, first dose of tetanus toxoid should be given with instruction to get the second dose after four weeks.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(e) Epidemiological surveillance should be provided by the epidemiological services.

Water-borne diseases

These infections account for about 80 per cent of sickness in India. All these are controllable with the basic public health and sanitary measures.

P. Typhoid fever

(a) General health service should be strengthened to ensure that cases of continuous fever are thoroughly examined. If investigations indicate likelihood of typhoid fever, this should be reported to the local and district health officers immediately. This is true of the private medical practitioners and hospitals as well.

(b) All cases should be treated with specific antibiotics. Contacts should be informed on preventive measures and protected.

(c) Immunization is desirable in children and young adults. Personal and food hygiene are good protective barriers and cannot be ignored by immunized persons.

(d) Active participation of the people is vital for prevention. This should be encouraged through general IEC drive for health promotion and disease prevention.

(e) Surveillance and evaluation should be done by the epidemiological services.

Q. *Cholera*

(a) General health service should be strengthened to ensure that no case of cholera is missed. Diagnosis should be confirmed and presumptive treatment started immediately. Cholera cases should be immediately notified to the local and district officers. This is true of the private medical practitioners and hospitals as well.

(b) Epidemic control measures should be quickly instituted. Contacts should be protected. Personal and food hygiene are good protective barriers. Fasting should be avoided. However, cholera immunization is not useful and not recommended

(c) Epidemiological investigation should be initiated.

(d) Active participation of the people is vital for prevention. This should be encouraged through general IEC drive for health promotion and disease prevention.

(e) Surveillance and evaluation should be done by the epidemiological services.

R. *Dysentery*

(a) General health service is to be adequately strengthened to ensure that cases of dysentery (diarrhoea with passing of blood) are investigated and correctly diagnosed. Cases should be reported to the local and district health officers. This is also true for the private medical practitioners and hospitals.

(b) Depending on the aetiological agent, every case should be given specific treatment.

(c) Personal and food hygiene are good protective barriers.

(d) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(d) Epidemiological surveillance and evaluation should be ensured through the epidemiological services. This is important because dysentery may be fatal.

S. *Infectious hepatitis*

(a) General health service is to be adequately strengthened to ensure that cases of jaundice are properly diagnosed and reported to the local and district health officers. This is also true for the private medical practitioners and hospitals.

(b) Several viruses cause hepatitis and specific diagnosis is serological.

(c) Hepatitis B virus is perhaps most dangerous pathologically among these. Apart from high mortality, it causes chronic hepatitis, liver cancer, cirrhosis, and liver failure. In fact, the virus is more infectious than the HIV. Immunization is possible and is recommended for susceptible infants and high-risk persons.

(d) Epidemic control measures should be quickly instituted. The commonest cause is gross contamination of the drinking water supply. Epidemic of hepatitis-B is due to the use of contaminated syringes and needles for injection.

(e) Epidemiological investigations should be initiated quickly.

(f) Personal and food hygiene are good protective barriers. Use of pre-sterilized syringe and needle is recommended.

(g) Active participation and involvement of the people is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(h) Epidemiological surveillance and evaluation should be ensured through the epidemiological services. This is important because hepatitis carries high morbidity.

Highest priority diseases

T. Tuberculosis

- This is our highest priority disease and the highest killer.

(a) General health service needs to be substantially strengthened to ensure that every person with symptoms suggestive of early tuberculosis should be appropriately attended and possibility of tuberculosis be excluded. For this high suspicion index and vigilance are necessary. Sputum microscopy should be done in every case and over dependence on radiological diagnosis should be avoided. All private medical practitioners and hospitals should be involved fully in this endeavour.

(b) Laboratory facilities for sputum microscopy should be of high quality, accurate, reliable and available at every place of treatment. Similarly, facilities for sputum culture and sensitivity-testing for anti-tubercular drugs should be enhanced.

(c) Every confirmed case of tuberculosis should be treated with recommended multi-drug therapy, preferably with 'short course chemotherapy' (SCC) and if possible, under direct supervision (but this may not be insisted upon). Regular and uninterrupted drug supply and treatment should be assured. Multi-blister packs may be provided. Emphasis should be on 100 per cent case-holding and complete cure. It should be remembered that microscopic examination of sputum from all persistent coughs seen in private clinics and health centres, followed by full course of the simple standardized regime of chemotherapy for persons excreting tubercle bacilli, is simple in theory but not at all in practice.

(d) Anti-tubercular drugs should be made freely available at all places and at all times, in primary health centres, dispensaries, chemists shops, private practitioners, etc.

(e) Active participation and involvement of the people and all private medical practitioners is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(h) Epidemiological surveillance and evaluation should be an important activity through the epidemiological services.

U. Leprosy

- Under the National Leprosy Elimination Programme, by the year 2006, prevalence of leprosy is expected to fall below one per 10,000 population. At this stage leprosy will cease to be a public health problem.

(a) General health service needs to be adequately strengthened to ensure that every person with early signs of leprosy is thoroughly examined and possibility of leprosy is ruled out. Cardinal sign of leprosy is painless discolouration or hypopigmented patch or change in the texture of the skin associated with loss or diminished sensations. Skin smears from the edge of the lesion should be examined microscopically in all cases. This is true of private medical practitioners and hospitals.

(b) Laboratory facilities for smear microscopy should be of high quality, accurate, reliable and available at every place of treatment.

(c) Unless confirmed, no case of suspected leprosy should be treated. Confirmed cases should be treated with recommended multi-drug therapy (MDT). Regular, adequate, timely and uninterrupted supply of drugs used for MDT is vital. This should be made available to all private and public medical practitioners, officers and at all chemists shops.

(d) Even if the patient is released after MDT treatment, all the bacteriologically positive patients should be under study and reviewed periodically. This is also true of the relapsed PB and MB cases. This is imperative in view of the possibility of emergence of leprosy bacilli resistant to MDT.

(e) The continued care of the 'cured' cases requires emphasis. Prevention of disability and deformity is very important. Care of the anaesthetized parts of the body and of the eyes is necessary. Patients and family members should be educated for such a care.

(f) Persons, especially children, with mono-lesion should be kept under surveillance and brought under MDT only on evidence of progress of infection. In view of the fact that vast majority of these lesions are self-curing and that leprosy carries stigma, it is best to consider the mono-lesions as evidence of infection and not of disease.

(g) Active participation of the people is vital for the success of leprosy elimination and this should be encouraged through general IEC programme for health promotion and disease control. The people should be empowered to suspect early leprosy lesion, and to seek for expert medical advice. Social stigma associated with leprosy has gone down but needs to be minimized, if not eliminated.

(h) Prevention of dehabilitation from the family; and social, psychological and economic rehabilitation are necessary.

(i) Epidemiological surveillance and evaluation should be an important activity through the epidemiological services.

V. Rabies (Hydrophobia)

- With the necessary willingness to make it happen this can be easily controlled in man.

(a) Strengthening National Canine Rabies Control Programme.

(b) Control/destruction of the stray dogs and regular immunization of the pet dogs. This, infact, happens to be the most practical control measure.

(c) Providing facilities for the treatment of dog-bite wounds. Washing with soap and water as early as possible within two hours after the bite is most important. Next is the use of anti-rabic vaccine and hyper-immune serum.

(d) Active participation and involvement of the people and all private medical practitioners is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(e) Epidemiological surveillance and evaluation should be an important activity through the epidemiological services.

Other important diseases

W. Sexually transmitted infections and diseases

- HIV infection and AIDS fall under this broad category and require neither special nor exclusive management.

(a) General health service is to be adequately strengthened to ensure that every person with signs and symptoms suggestive of syphilis, gonorrhoea, HIV infection, AIDS and other sexually transmitted diseases are recognized and promptly attended, correctly investigated, diagnosed and treated. This has to be done also by the private medical practitioners.

(b) Laboratory facilities for the diagnosis of STDs should be made available at all referral centres and hospitals. With provision of high quality and reliable services.

(c) Treatment facilities should be provided at all health centres, hospitals and by private medical practitioners. Confidentiality should be maintained strictly. Emphasis should be on case-holding.

(d) Contact, tracing and treatment of both the partners is vitally important. This should not be neglected.

(e) Active participation and involvement of the people and all private medical practitioners is vital for the success. IEC campaign for health promotion and disease prevention is necessary. The moral and spiritual values in the society should be promoted. Healthy sex behaviour and monogamy should be promoted. Extra-marital sexual contacts should be discouraged.

(f) Epidemiological surveillance and evaluation should be an important activity through the epidemiological services.

X. Yaws

- This infection is limited only to a few areas in the country. Programme has been launched in 1996 in Orissa for eradication of this disease. It is easily curable with antibiotics and what is required is efficient surveillance.

(a) General health service in the high-risk and endemic areas is to be adequately

strengthened to ensure that every person with signs and symptoms suggestive of yaws is recognized, thoroughly examined, promptly attended, investigated, diagnosed and treated. As soon as a case is suspected, this should be reported to the local and district health officers immediately. This has to be done by the private medical practitioners.

(b) Yaws is highly susceptible to penicillin. The contacts are also to be treated.

(c) Active participation and involvement of the people and all private medical practitioners is vital for the success of this strategy. IEC campaign for health promotion and disease prevention is necessary.

(d) Epidemiological surveillance and evaluation should be an important activity through the epidemiological services.

Rare infections

- There are many infections which are rare but may occur in sporadic or epidemic form, e.g., plague, sand-fly fever, typhus group of fevers, brucellosis, leptospirosis, anthrax, etc. Chickenpox and influenza may occur in epidemic form, however, vaccines are available against both these infections. Varicella Zoster vaccine prevents herpes zoster. It is the function and responsibility of epidemiological services to plan and effectively deal with these rare diseases. The case of plague is taken here as an example.

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Y. Plague

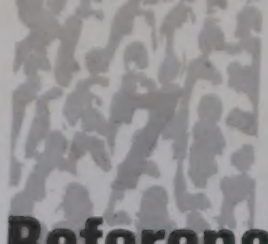
(a) Epidemiological surveillance should be ensured through the epidemiological services. This is the most vital step because this disease is rare but may be of grave social and economic loss if the infection spills over to man.

(b) General health service is to be adequately strengthened (with high suspicion index) to ensure that any case with signs and symptoms of plague is thoroughly examined. If the history and circumstances indicate possibility of plague, all the facts should be reported immediately to the local and district health officers by telephone, FAX and E-mail. This is also true for the private medical practitioners and hospitals.

(c) On receiving the information of possibility of plague, the health officer should immediately report to the highest level on telephone (mobile, if necessary) and institute epidemiological investigations, collect data, procure appropriate and adequate samples from the bubo, sputum, blood, etc. and send to a proper laboratory for confirmation of diagnosis.

(d) Laboratory facilities for diagnosis of plague should be reliable and accurate with quality assurance. This should be provided in a graded manner from the district public health laboratory, and medical college and state level laboratories.

(e) People should be well informed on this disease and its control through the IEC campaign so that rumours are prevented and there is no panic and phobia.



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VHAI

Voluntary Health Association of India (VHAI) is a non-profit, registered society formed in the year 1970. It is a federation of 24 State Voluntary Health Associations, linking together more than 4000 health care institutions and grassroots level community health programmes spread across the country.

VHAI's primary objective is to 'make health a reality for the people of India' by promoting community health, social justice and human rights related to the provision and distribution of health services in India.

VHAI tries to achieve these goals through campaigns, policy research, advocacy, need-based training, media and parliament interventions, publications and audio-visuals, dissemination of information and running of health and development projects in some difficult areas.

VHAI works for people-centred policies and their effective implementation. It sensitises the general public on important health and development issues for evolving a sustainable health movement in the country with due emphasis on its rich health and cultural heritage.

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About the book

In the present monograph, the author Dr. N.S. Deodhar, laments the neglect and weakening of the Indian public health system and the loss of priority and consideration that this system ideally deserves. The monograph stresses on the need to recognize health care as inter-disciplinary and multi-sectoral requiring collaboration and cooperation of other developmental sectors along with community participation. Stress has been placed on the fact that medical care, which is often confused as health care, is but one component of the gamut of issues forming 'health care'. The monograph also carries an overview of the current status of communicable disease control in India. It identifies the basic public health measures that need to be taken up for the control of diseases and provides a comprehensive 5-point programme as a community disease control strategy. The recommendations of the monograph which address a wide range of health care determinants - medical as well as social, environmental as well as traditional - can go a long way in making meaningful health care accessible to all.